MITSUBISHI ELECTRIC

Changes for the Better

for a greener tomorrow

Quality in Motion

PASSENGER ELEVATORS
For USA

MITSUBISHI Elevator

Series
GPM-III

2nd Edition

Utilizing its technological prowess and extensive experience, Mitsubishi Electric has remained a leader in the vertical transportation market since entering the business in 1931. The Company's creative, innovative spirit, represented by production of the world's first spiral escalator and elevator group-control systems that use artificial-intelligence technologies, continues to receive high evaluations industry-wide. Our products and systems are renowned for their high levels of quality, reliability and safety; and it is this sense of security and trust fostered with building owners and end-users alike that has led to the global expansion of our elevator/escalator business and the after-sales network to service it.

We understand responsibilities as a good corporate citizen, and continue to implement measures for protecting the environment and ensuring a sustainable society for future generations. A number of original technologies are being introduced to ensure more efficient products, systems and manufacturing operations, thereby enhancing productivity, reducing energy consumption and providing smoother, faster and more comfortable vertical transportation systems.

Principle

Based on our policy, “Quality in Motion”, we provide elevators and escalators that will satisfy our customers with high levels of comfort, efficiency, ecology and safety.

Efficiency

Comfort

Quality in Motion

Ecology

Safety

Mitsubishi Electric elevators, escalators and building management systems are always evolving, helping achieve our goal of being the No.1 brand in quality. In order to satisfy customers in all aspects of comfort, efficiency and safety while realizing a sustainable society, quality must be of the highest level in all products and business activities, while priority is place on consideration for the environment. As the times change, Mitsubishi Electric promises to utilize the collective strengths of its advanced and environmental technologies to offer its customers safe and reliable products while contributing to society.

We strive to be green in all of our business activities.

We take every action to reduce environmental burden during each process of our elevators’ and escalators’ lifecycle.

SERIES GPM-III

Utilizes Advanced Technologies to Succeed

At Mitsubishi Electric, we produce the most technologically innovative elevators in the world. They benefit from our constantly evolving technology and our years of accumulated experience. Our elevators continue to establish benchmarks for quality in the industry, and consistently set new standards for performance and reliability. The Series GPM-III elevators exhibit this philosophy in every detail of design and concept.

Higher Speeds

As buildings grow taller, the need for faster elevators becomes more pressing. To meet the market’s demands, Mitsubishi Electric produced the world’s fastest passenger elevators as verified by the Guinness Book of Records. Series GPM-III is available for elevators with rated speed of 200 fpm and higher to cover a wide range of applications.

Futuristic Key Technologies

Series GPM-III elevators use advances in core technology to realize optimum performance and operation efficiency. The advances include new gearless traction machines which utilize the PM (permanent magnet) motor*, VVVF (variable voltage, variable frequency) Inverters, AI (artificial intelligence), and Data Network Systems.
***PM motor is applied to elevators with rated speed of 400 fpm and higher.**

Intelligent Door System

An advanced RISC (Reduced Instruction Set Computer) microprocessor and VVVF inverters also control the elevator doors. This intelligent system detects the actual door load conditions at each floor and automatically adjusts the door speed and torque to suit. The result is stable, sensitive door opening and closing.

Variety of Features and Functions

A wide variety of both standard and optional features and functions is available with Series GPM-III, to improve passenger safety and comfort and to simplify building management.

Traction Machine with PM Motor

Delivers Optimal Performance

PM motor is applied to elevators with rated speed of 400 fpm and higher.

Pioneered by Mitsubishi

Mitsubishi Electric presents another world first: a new type of gearless traction machine for high-speed elevators with a PM motor. This unique application of PM motor and double disk-brake system to the elevator traction machine enables several improvements—including higher efficiency, greater comfort, and miniaturization.

Improved Efficiency and Response

Because it does not require an exciting current, the PM motor delivers higher efficiency and quicker response compared to conventional motors. Furthermore, the PM motor maintains this level of efficiency regardless of the number of poles.

A More Comfortable Ride

The PM motor makes it possible to suppress harmonic noise to a level below that of conventional induction motors. Furthermore, the PM motor features a quick response time since it requires no exciting current. Again, the reduced noise and vibration translates into a more comfortable ride for passengers.

Miniaturization

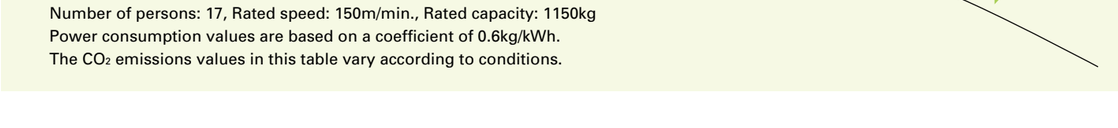
Traction machines with PM motors are smaller and more compact compared to those with conventional induction motors. The PM motor allows for a multi-pole arrangement and the result is a more compact machine. At the same time, the unit's height is reduced by the application of a double disk-brake system.

VVVF Inverter Drive

Share a Ride in Comfort

Milestones of Energy-saving Technologies in High-speed Elevator Development

	1970	1980	1990	2000	2010
Motor	DC motor		Induction motor	Permanent magnet motor	
Traction machine	Gearless		Helical-geared	Gearless	
Motor drive	Ward Leonard	Thyristor control	VVVF*1 control		
Control circuit	Relay		Microcomputer		
Power consumption	100%	95%	72%	62%	57%
CO_2 emissions*2					54%



*1: Variable Voltage, Variable Frequency
*2: CO_2 emissions in this table are from elevator operation and do not include emissions from manufacturing, transportation and other processes.

[Calculation conditions]
Number of persons: 17, Rated speed: 150m/min., Rated capacity: 1150kg
Power consumption values are based on a coefficient of 0.6kg/kWh.
The CO_2 emissions values in this table vary according to conditions.

Unique to Mitsubishi

Mitsubishi Electric was the first in the world to develop successfully VVVF inverter control technology for high speed elevators. We also introduced inverters throughout the entire line-up—from low- to super high-speed ranges. Recent advances have led to even further improvements in operation.

Precise, Effective Speed Control

Mitsubishi VVVF inverters make the ride much smoother by precisely adjusting speed control with voltage and frequency regulation. The inverters also include the latest low-noise modules to make the ride even quieter.

Practical Application

Mitsubishi Electric has already installed the world's fastest VVVF inverter-controlled passenger elevators in the Landmark Tower in Yokohama, Japan. These elevators provide a quiet, comfortable ride as well as large savings in energy.

Even More Advances

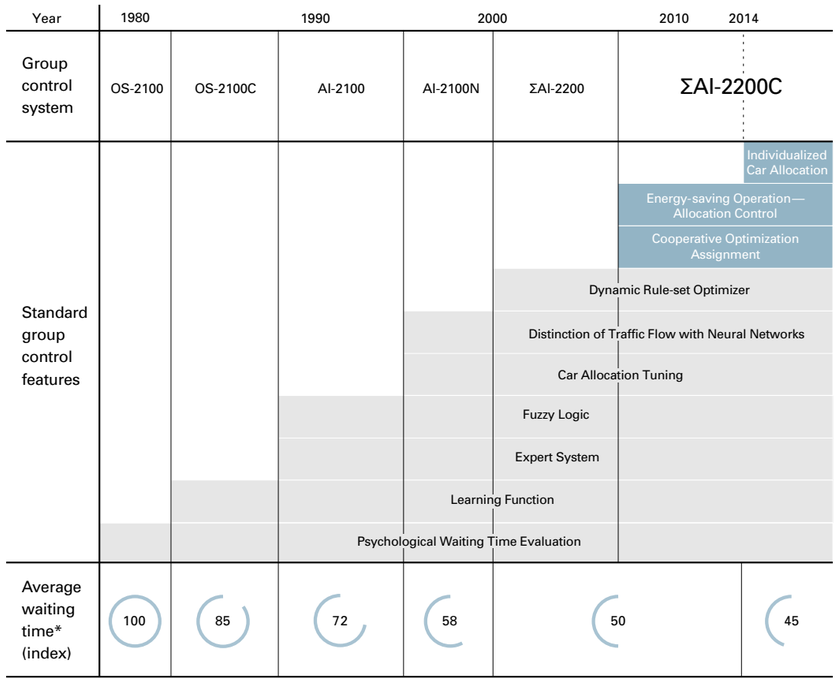
Series GPM-III elevators use further advances to control the motor speed. Utilizing the latest in semiconductor technology, Mitsubishi has incorporated on a single System LSI device, several control systems and our all new high speed digital signal processor.

Group Control System: ΣAI-2200C

Incorporates Advanced Artificial Intelligence

Milestones of Group Control Technologies

ΣAI-2200C is an advanced group control system which is composed of many group control features. With these features, it improves average waiting time.



*The average time until the assigned car arrives at the hall after a passenger presses a hall button.

Mitsubishi Technology

Using its original Expert System and fuzzy-logic technology, Mitsubishi Electric has developed a supervisory system that improves operation efficiency and increases user satisfaction.

Greater Passenger Satisfaction

The AI system evaluates the psychological waiting time for users and factors it into the decision process when responding to hall calls. This Mitsubishi-pioneered technology provides optimum service and user satisfaction by eliminating the irritation felt while waiting for a car on any floor of the building.

Intuitive & Comfortable

Comfortable elevator operation and ride under ever-changing usage conditions – that's the concept realized with the ΣAI-2200C group control system from Mitsubishi Electric.
Incorporating the latest advancements in fuzzy-logic, this system utilizes intuitive control to provide smooth operation and a stress-free ride. The moment a hall call button is pressed, the optimal car to respond to the call is selected based on factors such as waiting time, travel time, current car occupancy and energy consumption, and the Immediate Prediction Indication feature is simultaneously activated to reduce user irritation generated when waiting for the car to arrive.
Behind all this are Mitsubishi Electric's cutting-edge technologies, designed to add vitality and dynamism to building functionality.

Data Network System

Distributed Microprocessors Enhance the Human-Elevator Interface

Immediate Prediction Indication (AIL) for Easy-to-use Elevators

When a passenger has registered a hall call, the designated car is selected and the corresponding hall lantern immediately lights up. To inform the passenger of the car arrival, the hall lantern flashes on and off for three seconds before the arrival.

A Proficient Network

The Data Network System uses microprocessors distributed throughout the elevator configuration for more flexible control of the overall system. Each microprocessor is specially designed for thought-processing, thus greatly enhancing the "Human-Elevator Interface."

Highly Reliable and Efficient System

Each microprocessor is connected via a serial transmission line to ensure higher reliability and efficiency. The system also shares diagnostic programs among the microprocessors and incorporates backup systems to further enhance reliability and passenger safety.

Increased Flexibility

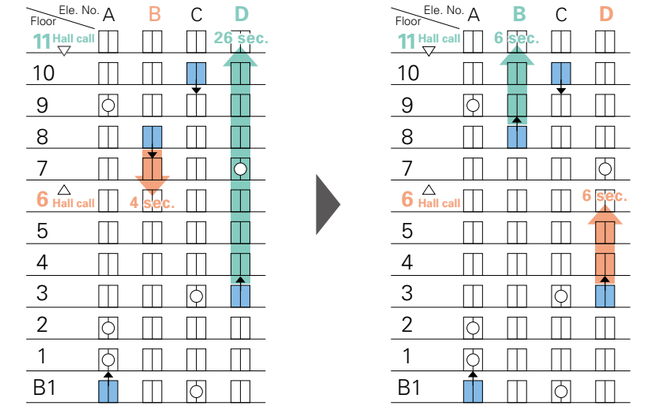
The distribution of data network microprocessors simplifies modification to features or operation of the system, allowing the system to evolve with the changing needs of the building and its tenants.

Cutting-edge Technologies for Allocation Control

Cooperative Optimization Assignment

Forecasting a near-future hall call to reduce long waits

When a hall call is registered, the algorithm predicts a near-future call that could require long waits. Through evaluation of the registered hall call and the forecasted call, the best car is assigned. All cars work cooperatively for optimum operation.



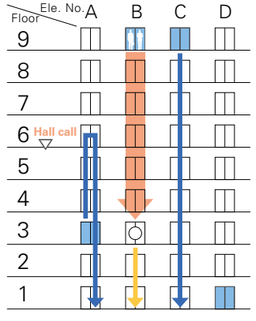
Energy-saving Operation — Allocation Control (ESO-W)

Maximizing operational efficiency and minimizing energy consumption

This system selects the elevator in a group that best balances operational efficiency and energy consumption. Priority is given to operational efficiency during peak hours and energy efficiency during non-peak hours.

Car allocation that maximizes operational efficiency does not necessarily translate to energy efficiency. A car uses energy efficiently when it travels down with a heavy load, or up with a light load. Accordingly, if multiple cars have the same traveling distance, this system chooses the car that requires the least energy.

Through a maximum 10% reduction in energy consumption compared to our conventional system, this system allows building owners to cut energy costs without sacrificing passenger convenience.



Initial conditions: non-peak period
Car A: Parked at the 3rd floor
Car B: About to leave the 9th floor with several passengers
Car C: Parked at the 9th floor
Car D: Parked at the 1st floor
Under the conditions above, when a hall call is registered at the 6th floor to go to the 1st floor, waiting time and traveling distance will be the same regardless of whether car A, B or C responds to the call.

In response to the call, the cars will operate in the following ways:
Car A will travel up with no passengers and then down with only one passenger (requires more energy than car B).
Car B will travel down with more passengers than car A (requires the least energy).
Car C will travel down with no passengers and then down with only one passenger (requires the most energy).

Car selection
During non-peak hours when energy efficiency is prioritized, car B is selected.

Dynamic Rule-set Optimizer (DRO)

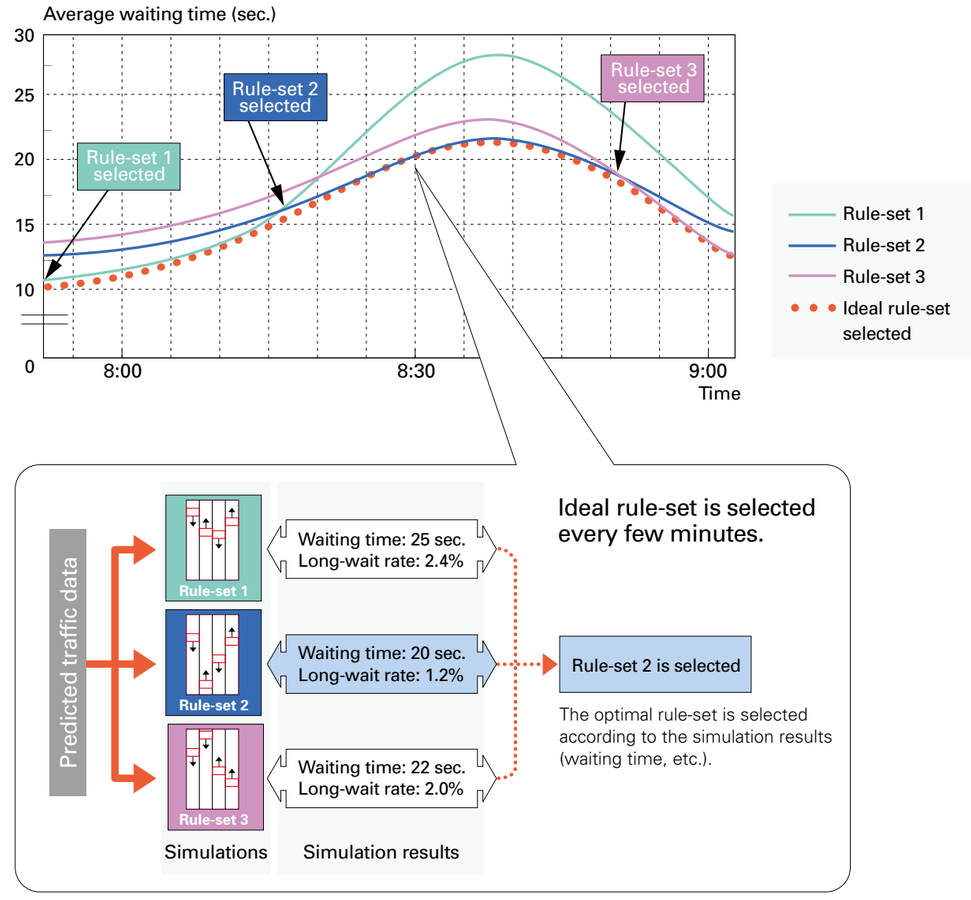
Selects optimum car allocation through "rule-set" simulation

The neural network technology has enabled the system to continually and accurately predict the passenger traffic within intervals of several minutes. A high-speed reduced instruction set computer (RISC) runs real-time simulations using multiple rule-sets and the predicted passenger traffic to select the rule-set which optimizes transport efficiency.

Simulation example and performance results of each rule-set

The diagram below shows an example during a morning up peak time. An ideal rule-set is selected every few minutes according to the predicted traffic conditions.

Performance results of each rule-set (average waiting time)



Destination Oriented Allocation System (DOAS)

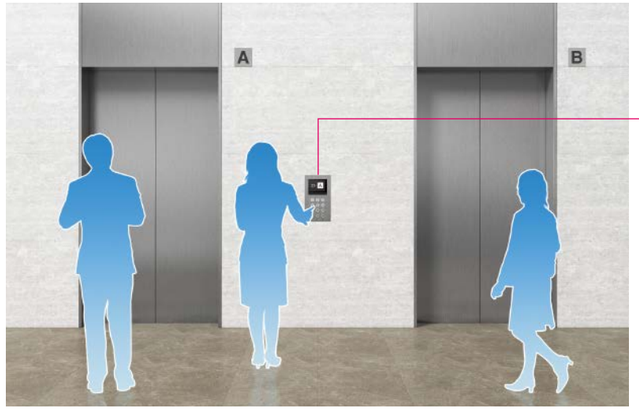
Destination Oriented Allocation System: DOAS

(ΣAI-2200C only) (Optional)

Allocating Passengers to Cars Depending on Destination Floors

When a passenger enters a destination floor at a hall, the hall operating panel immediately indicates which car will serve the floor. Because the destination floor is already registered, the passenger does not need to press a button in the car. Furthermore, dispersing passengers by destination prevents congestion in cars and minimizes waiting and traveling time. (Car destination floor indicator can be installed on the car operating panel to display floors to stop.*1)

Example of hall arrangement without hall lantern*2



Hall operating panel

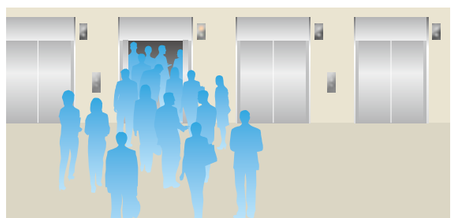
When a passenger enters a destination floor number, the elevator number assigned to the destination is displayed.

Notes:
*1: Car destination floor indicator can be installed as an option.
*2: Hall arrangement with hall lantern is available as an option.

Advantages of DOAS in the lobby

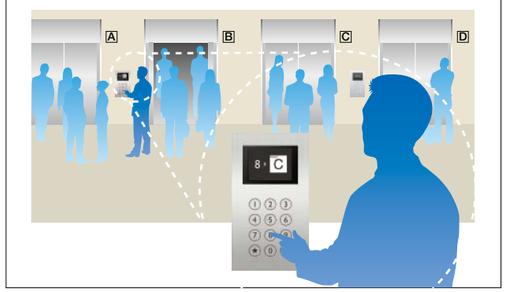
Without DOAS

Passengers wait for cars wondering which car will arrive first. Once a car arrives, regardless of the destination, passengers rush to get into the car.



With DOAS

When passengers enter a destination floor at a hall, the hall operating panel indicates which elevator to take. As passengers proceed to the assigned elevator, the car is on its way and there is no hurry when the car arrives.



Please refer to the ΣAI-2200C brochure for details.

Functions

Feature	Description	1 Car	2-4 Car	3-8 Car ΣAI-2200C
Standard Features				
■OPERATIONAL AND SERVICE FEATURES				
Car Call Canceling (CCC)	When a car has responded to the final car call in one direction, the system regards remaining calls in the other direction as errors and clears them from the memory.	√	√	√
Continuity of Service (COS)	A car which is experiencing trouble is automatically withdrawn from group control operation to maintain overall group performance.	–	√	√
Automatic Hall Call Registration (FSAT)	If one car cannot carry all waiting passengers because it is full, another car will automatically be assigned for the remaining passengers.	√	√	√
Backup Operation for Group Control Microprocessor (GCBK)	An operation by car controllers which automatically starts to maintain elevator operation in the event that a microprocessor or transmission line in the group controller has failed.	–	√	√
Next Landing (NXL)	If the elevator doors do not open fully at a destination floor, the doors close and the car automatically moves to the next or nearest floor, where the doors will open.	√	√	√
Overload Holding Stop (OLH)	A buzzer sounds to alert the passengers that the car is overloaded; the doors remain open and the car does not leave that floor until enough passengers exit the car.	√	√	√
Safe Landing (SFL)	If a car has stopped between floors due to an equipment malfunction, the controller checks the cause, and if it is considered safe to move the car, the car will move to the nearest floor at a low speed and the doors will open.	√	√	√
Independent Service (IND)	Exclusive operation where a car is withdrawn from group control operation for independent use, such as maintenance or repair, and responds only to car calls.	√	√	√
Automatic Bypass (ABP)	A fully loaded car bypasses hall calls in order to maintain maximum operational efficiency.	√	√	√
Car Light Shut Off – Automatic (CLO-A)	If there are no calls for a specified period, the car lighting will automatically shut off to conserve energy.	√	√	√
Car Fan Shut Off – Automatic (CFO-A)	If there are no calls for a specified period, the car ventilation fan will automatically turn off to conserve energy.	√	√	√
False Call Cancelling – Automatic (FCC-A)	If the number of registered car calls does not correspond to the car load, all calls are canceled to avoid unnecessary stops.	√	√	√
■GROUP CONTROL FEATURES				
Expert System and Fuzzy Logic	Artificial expert knowledge, which has been programmed using "expert system" and "fuzzy logic," is applied to select the ideal operational rule for maximum efficiency of group control operations.	–	√	√
Psychological Waiting Time Evaluation	Cars are allocated according to the predicted psychological waiting time for each hall call. The rules evaluating psychological waiting time are automatically changed in response to actual service conditions.	–	√	√
Car Travel Time Evaluation	Cars are allocated to hall calls by considering the number of car calls that will reduce passenger waiting time in each hall and the travel time of each car.	–	√	√
Peak Traffic Control (PTC)	A floor which temporarily has the heaviest traffic will be served with higher priority than other floors, but not to an extent that interferes with service to other floors.	–	√	√
Strategic Overall Spotting (SOHS)	To reduce passenger waiting time, cars which have finished service are automatically directed to positions where they can respond to predicted hall calls as quickly as possible.	–	√	√
Cooperative Optimization Assignment	The system predicts a potential hall call which could cause longer waiting time. Car assignment is performed considering not only current and new calls but also near-future calls.	–	–	√
Distinction of Traffic Flow with Neural Networks (NN)	Traffic flows in a building are constantly monitored using neural network technology, and the optimum operational pattern, such as Lunchtime Service or Up Peak Service, is selected or canceled accordingly at the appropriate time.	–	–	√
Car Allocation Tuning (CAT)	The number of cars allocated or parked on crowded floors are controlled not just according to the conditions on those crowded floors, but also on the operational status of each car and the traffic on each floor.	–	–	√
Dynamic Rule-set Optimizer (DRO)	Traffic flows in a building are constantly predicted using neural network technology, and an optimum rule-set for group control operations is selected through real-time simulations based on prediction results.	–	–	√
Energy-saving Operation – Allocation Control (ESO-W)	The system selects the elevator that best balances operational efficiency and energy consumption according to each elevator's current location and passenger load, as well as predicted congestion levels throughout the day.	–	–	√
■DOOR OPERATION FEATURES				
Door Load Detector (DLD)	When excessive door load has been detected while opening or closing, the doors immediately move in the reverse direction.	√	√	√
Door Sensor Self-Diagnosis (DODA)	Failure of non-contact door sensors is checked automatically, and if a problem is diagnosed, the door-close timing is delayed and the closing speed is reduced to maintain elevator service and ensure passenger safety.	√	√	√
Automatic Door Speed Control (DSAC)	Door load on each floor, which can depend on the type of hall door, is monitored to adjust the door speed, thereby making it consistent throughout all floors.	√	√	√
Door Nudging Feature (NDG)	The doors slowly close when they have remained open for longer than the preset period with alarm sound.	√	√	√
Repeated Door-Close (RDC)	Should an obstacle prevent the doors from closing, the doors will repeatedly open and close until the obstacle is removed.	√	√	√
Re-open with Hall Button (ROHB)	Closing doors can be re-opened by pressing the hall button corresponding to the traveling direction of the car.	√	√	√
Multi-Beam Door Sensor	Multiple infrared-light beams cover some 5'-10 3/4" in height of the doors as they close to detect passengers or objects.	√	√	√
Electronic Doorman (EDM)	Door open time is minimized using safety ray(s) or multi-beam door sensors that detect passengers boarding or exiting.	√	√	√
Automatic Door-open Time Adjustment (DOT)	The amount of time that doors are open will automatically adjust depending on whether the stop was called from the hall or the car, to allow smooth boarding of passengers or loading of baggage.	–	–	√

Notes: – = Not applicable

Functions

Feature	Description	1 Car	2-4 Car	3-8 Car ΣAI-2200C
■SIGNAL AND DISPLAY FEATURES				
Car/Hall Click Type Call Buttons	Call buttons that click softly when touched are fitted as standard.	√	√	√
Basic Announcement (AAN-B)	A synthetic voice (and/or buzzer) that alerts passengers inside a car to the fact that elevator operation has been temporarily interrupted by overloading or a similar cause. (Voice available only in English.)	√	√	√
Car Arrival Chime-Car (AECC)	Electronic chimes that sound to indicate that a car will soon arrive. (The chimes are mounted on the top and bottom of the car.)	√	√	–
Flashing Hall Lantern (FHL)	A hall lantern, which corresponds to a car's service direction, flashes to indicate that the car will soon arrive.	√	√	√
Inter-communication System (ITP)	A system that allows communication between passengers inside a car and the building personnel.	√	√	√
■EMERGENCY OPERATIONS AND FEATURES				
Firefighter's Emergency Operation (FE)	In case of fire, the elevator performs firefighters' emergency operation (Phase I and Phase II) conforming to the local code.	√	√	√
Earthquake Emergency Operation (EER-DS)	In case of earthquake detection, the elevator stops at the nearest available floor and shuts down with the door open. (Detailed operation conforms to the local code.)	√	√	√

Optional Features

■OPERATIONAL AND SERVICE FEATURES				
Car Call Erase (FCC-P)	If the wrong car button is pressed, it can be canceled by quickly pressing the same button again twice.	√	√	√
Non-Service to Specific Floors-Car Button Type (NS-CB)	To enhance security, service to desired floors can be set to disable using the car operating panel. This function is automatically deactivated during emergency operations.	√	√	√
Non-Service to Specific Floors-Switch Type (NS)	To enhance security, service to desired floors can be set to disable using a manual switch. This function is automatically deactivated during emergency operations.	√	√	√
Out-of-Service - Remote (RCS)	With a key switch on the supervisory panel, etc., a car can be called to a specified floor after responding to all car calls, and then automatically be taken out of service.	√	√	√
Secret Call Service (SCS-B)	To enhance security, car calls for desired floors can be registered only by entering secret codes using the car buttons on the car operating panel. This function is automatically deactivated during emergency operations.	√	√	√
■GROUP CONTROL FEATURES				
Bank-Separation Operation (BSO)	Hall buttons and the cars called by each button can be divided into several groups for independent group control operation to serve special needs or different floors.	–	√	√
Closest-Car Priority Service (CNPS)	A function to give priority allocation to the car closest to the floor where a hall call button has been pressed, or to reverse the closing doors of the car closest to the pressed hall call button on that floor. (Cannot be combined with Hall Position Indicators.)	–	√#1	√
Energy Saving Operation-Number of Cars (ESO-N)	To save energy, the number of service cars is automatically reduced to some extent but not so much as to adversely affect passenger waiting time.	–	√	√
Forced Floor Stop (FFS)	All cars in a bank automatically make a stop at a predetermined floor on every trip without being called.	√	√	√
Main Floor Parking (MFP)	An available car always parks on the main floor with the doors open to reduce passenger waiting time.	√	√	√
Special Car Priority Service (SCPS)	Special cars, such as observation elevators and elevators with basement service, are given higher priority to respond to hall calls. (Cannot be combined with Hall Position Indicators.)	–	√#1	√
Special Floor Priority Service (SFPS)	Special floors, such as floors with VIP rooms or executive rooms, are given higher priority for car allocation when a call is made on those floors. (Cannot be combined with Hall Position Indicators.)	–	√#1	√
Main Floor Changeover Operation (TFS)	This feature is effective for buildings with two main floors. The floor designated as the "Main floor" in a group control operation can be changed as necessary using a manual switch.	√	√	√
Light-Load Car Priority Service (UCPS)	When traffic is light, empty or lightly loaded, cars are given higher priority to respond to hall calls in order to minimize passenger travel time. (Cannot be combined with Hall Position Indicators.)	–	√#1	√
Swing Service (SWSV)	A car is temporarily split from the group to work as a single car. This dedicates one car to mail deliveries or facility maintenance through certain parts of the day. The swing car is operated from an inconspicuous riser of pushbuttons mounted in the doors jamb.	√	√	√
Destination Oriented Allocation System (DOAS)	When a passenger enters a destination floor at a hall, the hall operating panel indicates which car will serve the floor. The passenger does not need to press a button in the car. Dispersing passengers by destination prevents congestion in the cars and minimizes waiting and traveling time. (Cannot be combined with some features. Please consult your local sales office for details.)	–	–	√#3
Intense Up Peak (IUP)	To maximize transport efficiency, an elevator bank is divided into two groups of cars to serve upper and lower floors separately during up peak. In addition, the number of cars to be allocated, the timing of car allocation to the lobby floor, the timing of door closing, etc., are controlled based on predicted traffic data.	–	–	√
Up Peak Service (UPS)	Controls the number of cars to be allocated to the lobby floor, as well as the car allocation timing, in order to meet increased demands for upward travel from the lobby floor during office starting time, hotel check-in time, etc., and minimize passenger waiting time.	–	√	√
Down Peak Service (DPS)	Controls the number of cars to be allocated and the timing of car allocation in order to meet increased demands for downward travel during office leaving time, hotel check-out time, etc. to minimize passenger waiting time.	–	√	√

Notes: – = Not applicable

Feature	Description	1 Car	2-4 Car	3-8 Car ΣAI-2200C
■GROUP CONTROL FEATURES				
Congested-floor Service (CFS)	The timing of car allocation and the number of cars to be allocated to floors where meeting rooms or ballrooms exist and the traffic intensifies for short periods of time are controlled according to the detected traffic density data for those floors.	–	√	√
Lunchtime Service (LTS)	During the first half of lunchtime, calls for a restaurant floor are served with higher priority, and during the latter half, the number of cars allocated to the restaurant floor, the allocation timing for each car and the door opening and closing timing are all controlled based on predicted data.	–	√	√
■DOOR OPERATION FEATURES				
Extended Door-Open (Door Hold) Button (DKO-TB)	A button located inside a car which keeps the doors open for a longer than usual period to allow loading and unloading of a stretcher, baggage, etc.	√	√	–
3D Multi-Beam Door Sensor	Multiple infrared-light beams cover some 5'-10 3/4" in height of the doors as they close to detect passengers or objects. The 3D sensor can also monitor the hall by expanding multiple infrared light beams.	√	√	√
■SIGNAL AND DISPLAY FEATURES				
Voice Guidance System (AAN-G)	Information on elevator service such as the current floor or service direction that is heard by the passengers inside a car. (Voice guidance available only in English.)	√	√	√
Car Arrival Chime- Hall (AECH)	Electronic chimes that sound to indicate that a car will soon arrive. (The chimes are mounted in each hall.)	√	√	√#2
Immediate Prediction Indication (AIL)	When a passenger has registered a hall call, the best car to respond to that call is immediately selected, the corresponding hall lantern illuminates and a chime sounds once to indicate which doors will open.	–	–	√
Second Car Prediction (TCP)	When a hall is crowded to the extent that one car cannot accommodate all waiting passengers, the hall lantern will light up to indicate the next car to serve the hall.	–	–	√
■EMERGENCY OPERATIONS AND FEATURES				
Emergency Car Lighting (ECL)	Car lighting which turns on immediately when power fails to provide a minimum level of lighting within the car. (Choice of dry-cell battery or trickle-charger battery.)	√	√	√
Mitsubishi Emergency Landing Device (MELD)	In case of power failure, a car equipped with this function automatically moves and stops at the nearest floor using a rechargeable battery, and the doors open to ensure passenger safety. (Max. allowable floor-to-floor distance is 36'-1".)	√	√	√
Mitsubishi Elevators & Escalators Monitoring and Control System MelEye (WP-W)	Each elevator's status and operations can be monitored and controlled using an advanced Web-based technology which provides an interface through personal computers. Special optional features, such as preparation of traffic statistics and analysis, are also available.	√	√	√
Operation by Emergency power source - Automatic (OEPS-AU)	In case of power failure, the elevator moves to the designated floor and opens the door to secure the safety of passengers. Then, the elevator will operate by emergency power until normal power recovery. (Detailed operation conforms to the local code.)	–	√	√
Supervisory Panel (WP)	A panel installed in a building's supervisory room, which monitors and controls each elevator's status and operations by remotely using indicators and switches provided on request.	√	√	√

Notes: – = Not applicable #1 = Please consult your local sales office for lead times and details. #2 AECH is standard feature when 3-8 car ΣAI-2200C is applied.
#3 DOAS cannot be combined with BSO, IUP, UPS, TFS, FSAT, FCC-A, DKO-TB or TCP feature.

ISO 9001
BUREAU VERITAS
Certification

Mitsubishi Elevator Inazawa Works has acquired ISO 9001 certification by the International Organization for Standardization based on a review of quality management.
The company has also acquired environmental management system standard ISO 14001 certification.

for a greener tomorrow

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.

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